

## DOES NATURAL SELECTION IMPLY WE ARE CONTINGENT?

Natural selection, as commonly interpreted, seems to imply that human traits (and the traits of any species) are contingent products of evolution. Humans may be most adept at language, or using tools but the emergence of these traits is entirely dependent on the prehistoric ‘environment of evolutionary adaptedness’. Even if there would be a trait uniquely characterizing humans, it would have the same status as the gazelle’s speed or the lion’s mane: it could as easily not have emerged in evolution if conditions were different.

In this paper I argue against this view, and that natural selection does not only produce ‘local’ adaptations optimized for particular environments, but also ‘global’ adaptations to environmental *variability*. It can be shown that, when the environment varies in unpredictable ways, behavioral flexibility is favored over fixed behaviors. Thus, insofar human beings can be understood as a species with great behavioral flexibility, able to adapt to a great range of environmental variation, human beings are not a contingent product of evolution, but should be expected in any possible world where living entities evolve by natural selection in variable environments.